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EXAMINER	
BRUCKART, BENJAMIN R	
ART UNIT	**PAPER NUMBER**
2155	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/749,479	TAKASHIMA ET AL.	
	Examiner	Art Unit	
	Benjamin R Bruckart	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Status of Claims:

Claims 1-33 are pending in this Office Action.

Claims 1-33 are rejected under 35 U.S.C. 103(a) as being anticipated by U.S. Patent No 5,251,205 by Callon et al in view of Perlman.

Response to Arguments

Applicant's arguments in amendment filed 9/9/2004 with respect to claims 1, 12, 23 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's invention as claimed:

Claims 1-33 are rejected under 35 U.S.C. 103(a) as being obvious by U.S. Patent No 5,251,205 by Callon et al in view of U.S. Patent No 6,094,525 by Perlman et al.

With regards to claim 1,

The Callon reference teaches a routing information mapping device (Callon: col. 13, lines 14-19), comprising:

a transmitting unit transmitting open shortest path first packet (Callon: col. 51, lines 56-62) with information about whether a self-device belongs to a connection-oriented network (Callon: col. 39, lines 65- col. 40, line 25);

a receiving unit extracting information about whether another device from which a packet is received belongs to the connection-oriented network and information about a configuration of a network from the device (Callon: col. 39, lines 22-27, 48-62); and

a tree generation unit generating a routing tree of a network that clearly indicates a device belonging to the connection-oriented network, based on the information extracted by the receiving unit (Callon: col. 13, lines 14-19; Figures 4A and 4B; col. 1, lines 40-50).

The Callon reference states the use of option fields in packets to carry additional data but does not explicitly state using the options field.

The Perlman reference teaches using an options field to carry additional data (Perlman: col. 6, lines 8-15).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the routing information mapping device as taught by Callon while employing the use of the options field as taught by Perlman by just moving the data from one field to another field designated options in order to carry additional data.

Claims 2-11 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Callon and Perlman et al.

With regards to claim 2, the routing information mapping device according to claim 1, further comprising:

a judgment unit judging whether the self-device is an edge device of the connection-oriented network, based on the routing tree of the network (Callon: col. 1, lines 51-65).

With regards to claim 3, the routing information mapping device according to claim 2, further comprising:

an outside network information acquisition unit obtaining information about an outside network connected to the connection-oriented network from both the routing tree and information about the edge device of the connection-oriented network (Callon: col. 13, lines 14-19; Figures 4A and 4B and col. 8, lines 49-57).

With regards to claim 4, the routing information mapping device according to claim 3, further comprising:

a mapping unit generating a table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device if the self-device is the edge device (Callon: col. 13, lines 14-19; Figures 4A and 4B; col. 1, lines 40-50).

With regards to claim 5, the routing information mapping device according to claim 1, wherein

said transmitting unit attaches information about a connection protocol used by the self-device to the packet and transmits the information (Callon: col. 39, lines 22-27; col. 39, line 65-col. 40, line 11, lines16-26).

With regards to claim 6, the routing information mapping device according to claim 1, comprising:

a server unit receiving both information about a configuration of the network and information about whether the self-device belongs to the connection-oriented network from each device and transmitting both the information about the configuration of the network and information about whether each device belongs to the connection-oriented network to a requesting device at a request of each device (Callon: Abstract; share via common LSP; col. 40, lines 33-52).

With regards to claim 7, the routing information mapping device according to claim 6, wherein said sever unit receives information about a connection protocol used by each device from each device (Callon: col. 39, lines 65 – col. 40, line 6; Protocols supported), stores the information (Callon: col. 11, lines 7-25) and transmits the information to the requesting device at the request of each device (Callon: Abstract; share via common LSP; col. 40, lines 33-52).

With regards to claim 8, the routing information mapping device according to claim 1, wherein the packet is transmitted/received using a routing protocol (Callon: col. 2, lines 15-26).

With regards to claim 9, the routing information mapping device according to claim 1, wherein the packet is transmitted/received using a connection protocol (Callon: col. 7, lines 14-21; col. 2, lines 26-41).

With regards to claim 10, the routing information mapping device according to claim 4, wherein the table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device that is transmitted from another device is used in the self-device as routing information (Callon: col. 13, lines 14-24).

With regards to claim 11, the routing information mapping device according to claim 10, wherein if the tables are obtained from the plurality of other devices, a cost of a route of the network from which the table is obtained is calculated and the table transmitted via the route with an optimal cost is used (Callon: col. 13, lines 14-24; best; col. 21, lines 5-34).

With regards to claim 12, a routing information mapping method (Callon: col. 13, lines 14-19), comprising:

(a) transmitting an open shortest path first packet (Callon: col. 51, lines 56-62) with information about whether a self-device belongs to a connection-oriented network (Callon: col. 39, lines 65- col. 40, line 25);

(b) extracting both information about whether another device from which a packet is received belongs to the connection-oriented network and information about a configuration of a network from the other device (Callon: col. 39, lines 22-27, 48-62); and

(c) generating a routing tree of the network that clearly indicates a device belonging to the connection-oriented network, based on the information extracted in step (b) (Callon: col. 13, lines 14-19; Figures 4A and 4B; col. 1, lines 40-50).

The Callon reference states the use of option fields in packets to carry additional data but does not explicitly state using the options field.

The Perlman reference teaches using an options field to carry additional data (Perlman: col. 6, lines 8-15).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the routing information mapping device as taught by Callon while employing the use of the options field as taught by Perlman by just moving the data from one field to another field designated options in order to carry additional data.

Claims 13-22 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Callon and Perlman et al.

With regards to claim 13, the routing information mapping device according to claim 12, further comprising:

(d) judging whether the self-device is an edge device of the connection-oriented network, based on the routing tree of the network (Callon: col. 1, lines 51-65; Figure 1).

With regards to claim 14, the routing information mapping method according to claim 13, further comprising:

(e) obtaining information about an outside network connected to the connection-oriented network from both the routing tree and information about the edge device of the connection-oriented network (Callon: col. 13, lines 14-19; Figures 4A and 4B and col. 8, lines 49-57).

With regards to claim 15, the routing information mapping method according to claim 14, further comprising:

(f) generating a table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device if the self-device is the edge device (Callon: col. 13, lines 14-19; Figures 4A and 4B; col. 1, lines 40-50).

With regards to claim 16, the routing information mapping method according to claim 12, wherein

in step (a), information about a connection protocol used by the self-device is attached to the packet and is transmitted (Callon: col. 39, lines 22-27; col. 39, line 65-col. 40, line 11, lines16-26).

With regards to claim 17, the routing information mapping method according to claim 12, further comprising:

(g) receiving both information about the configuration of the network and information about whether the self-device belongs to the connection-oriented network from each device, storing the obtained information and transmitting both the information about the configuration of the network and information

about whether each device belongs to the connection-oriented network to a requesting device at a request of each device (Callon: Abstract; share via common LSP; col. 40, lines 33-52).

With regards to claim 18, the routing information-mapping method according to claim 17, wherein in step (g), information about a connection protocol used by each device is received from each device (Callon: col. 39, lines 65 – col. 40, line 6; Protocols supported), the information is stored (Callon: col. 11, lines 7-25) and the information is transmitted to the requesting device at the request of each device (Callon: Abstract; share via common LSP; col. 40, lines 33-52).

With regards to claim 19, the routing information mapping method according to claim 12, wherein the packet is transmitted/received using a routing packet (Callon: col. 2, lines 15-26).

With regards to claim 20, the routing information mapping method according to claim 12, wherein the packet is transmitted/received using a connection packet (Callon: col. 7, lines 14-21; col. 2, lines 26-41).

With regards to claim 21, the routing information mapping method according to claim 15, wherein the table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device that is transmitted from another device is used in the self-device as routing information (Callon: col. 13, lines 14-24).

With regards to claim 22, the routing information mapping method according to claim 21, wherein if the tables are obtained from the plurality of other devices, a cost of a route of the network from which the table is obtained is calculated and the table transmitted via a route with an optimal cost is used (Callon: col. 13, lines 14-24; best; col. 21, lines 5-34).

With regards to claim 23, a storage medium on which is recorded a program for enabling a processor to execute routing information mapping (Callon: col. 13, lines 14-19), said process comprising:

(a) transmitting an packet open shortest path first (Callon: col. 51, lines 56-62) with information about whether a self-device belongs to a connection-oriented network (Callon: col. 39, lines 65- col. 40, line 25);

(b) extracting both information about whether another device from which a packet is received belongs to the connection-oriented network and information about a configuration of the network from the device (Callon: col. 39, lines 22-27, 48-62); and

(c) generating a routing tree of the network that clearly indicates the device belonging to the connection-oriented network, based on the information extracted in step (b) (Callon: col. 13, lines 14-19; Figures 4A and 4B; col. 1, lines 40-50).
The Callon reference states the use of option fields in packets to carry additional data but does not explicitly state using the options field.

The Perlman reference teaches using an options field to carry additional data (Perlman: col. 6, lines 8-15).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the routing information mapping device as taught by Callon while employing the use of the options field as taught by Perlman by just moving the data from one field to another field designated options in order to carry additional data.

Claims 24-33 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Callon and Perlman et al.

With regards to claim 24, the storage medium according to claim 23, said process further comprising:

(d) judging whether a self-device is an edge device of the connection-oriented network, based on the routing tree of the network (Callon: col. 1, lines 51-65; Figure 1).

With regards to claim 25, the storage medium according to claim 24, said process further comprising:

(e) obtaining information about an outside network connected to the connection-oriented network from both the routing tree and information about the edge device of the connection-oriented network (Callon: col. 13, lines 14-19; Figures 4A and 4B and col. 8, lines 49-57).

With regards to claim 26, the storage medium according to claim 25, said process further comprising:

(f) generating a table for relating routing information of the connection-oriented network to routing information of the outside network connected to the self-device if the self-device is the edge device (Callon: col. 13, lines 14-19; Figures 4A and 4B; col. 1, lines 40-50).

With regards to claim 27, the storage medium according to claim 23, wherein

in step (a), information about a connection protocol used by the self-device is attached to the packet and is transmitted (Callon: col. 39, lines 22-27; col. 39, line 65-col. 40, line 11, lines16-26).

With regards to claim 28, the storage medium according to claim 23, said process further comprising:

(g) receiving both information about the configuration of the network and information about whether the self-device belongs to a connection-oriented network from each device, storing the obtained information and transmitting both the information about the configuration of the network and information

about whether each device belongs to the connection-oriented network to a requesting device at a request of each device (Callon: Abstract; share via common LSP; col. 40, lines 33-52).

With regards to claim 29, the storage medium according to claim 28, wherein

in step (g), information about a connection protocol used by each device is received from each device (Callon: col. 39, lines 65 – col. 40, line 6; Protocols supported), the information is stored (Callon: col. 11, lines 7-25) and the information is transmitted to the requesting device at the request of each device (Callon: Abstract; share via common LSP; col. 40, lines 33-52).

With regards to claim 30, the storage medium according to claim 23, wherein

the packet is transmitted/received using a routing packet (Callon: col. 2, lines 15-26).

With regards to claim 31, the storage medium according to claim 23, wherein

the packet is transmitted/received using a connection packet (Callon: col. 7, lines 14-21; col. 2, lines 26-41).

With regards to claim 32, the storage medium according to claim 23, wherein a table for relating routing information of the connection-oriented network to routing information of an outside network connected to the self-device that is transmitted from another device is used in the self-device as routing information (Callon: col. 13, lines 14-24).

With regards to claim 33, the storage medium according to claim 23, wherein if a plurality of tables are obtained from the plurality of other devices, a cost of a route of the network from which the table is obtained is calculated and the table transmitted via the route with an optimal cost is used (Callon: col. 13, lines 14-24; best; col. 21, lines 5-34).

Prior Art

http://www.pulsewan.com/data101/ospf_basics.htm, June 1999, PDF attached.

REMARKS

The Applicant Argues:

Applicant argues the Callon reference does not teach the packet includes a piece of information indicating for other routers whether the sending router belongs to the connection-oriented network in the unused options field of OSPF packets.

In response, the examiner respectfully submits:

The Callon reference teaches extensive use of a modified Dijkstra algorithm for calculating routes. The Dijkstra algorithm is a shortest path first algorithm. The open shortest path first is modification of the shortest path first. Col. 51, lines 56-62 reinforces the shortest path first algorithm. Also the open shortest path first algorithm is directly associated with link state advertisement packets or hello packets as further defined in prior art in Internetworking Technology Overview of June 1999, Chapter 42.

The fields of OSPF packets are used to carry information about a device in a connection-oriented network. Col. 39, lines 22-27 show link state packets are normalized to a format in use but additional fields are added and that they are processed but if they are not recognized then they are ignored (Callon: col. 39, lines 48-63). The reference shows omitting the protocols supported field in a packet may be done indicating OSI only router. The Callon reference teaches the different fields are used to designate protocols supported and IP addresses in different types of packets, hello packets, link state packets, and sequence number packets. The fields are used to determine membership in hello packets because they are used to form and discover the network topology and they determine the protocols supported by the senders address (col. 39, lines 65- 26). The Callon reference also teaches the link state packets can request to share database topology, update topology. The type of the field in the OSPF packet determines the type of packet: hello, link state, or sequence. This is an obvious variation of the prior art.

The examiner suggests further defining and detailing the options field of the packet since there are many variations and option fields in packets.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 8:00-5:30PM with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin R Bruckart
Examiner
Art Unit 2155

brb BAB
November 23, 2004

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER